

Work Order ID 76834

76834

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November 22, 2011 8:09:54 AM

Item ID: D6104-005 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Round Billet, 17-4
 Start Date: 11/22/11 Start Qty: 20.00 ***20*** Cust Item ID:
 Required Date: 12/06/11 Req'd Qty: 20.00 ***20*** Customer:
 Reference:

Approvals: Process Plan: CL Date: 11/11/22 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| Draw Nbr | Revision Nbr | | | | | | | | |
| D6104 | Rev B | | | | | | | | |

100 PURCHASING 0.00
100
 Purchasing Memo 0.00
 Purchasing Issue P/O: 15517 a)Description: S.S round billet b) Ø4.00" x 5.10" long c) Tolerance on all dimensions are +0.030"/-0.000" d) Material: 17-4PH Stainless steel (Ams 5643 or Aisi 630)e)One blank makes 2 partsf) Material certification required
CL 11/11/23 (20)

110 Receive & Inspect for Damage & Mat'l Certs 0.00
110
 Packaging Memo 0.00
 Packaging Ensure material certification is attached
CL 11/12/06 (20)

120 QC6- Inspect dimensions to drawing 0.00
120
 QC Memo 0.00
 Quality Control Ensure Material certification comply to Dwg D6104
SL 11-12-06

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
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| | | | | | | | | |

NOTE: Date & initial all entries

Work Order ID 76834***76834***

Page 2

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Item ID: D6104-005 Accept ***N900040100*** Setup Start ***NS1***
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 130 | Identify as per dwg & Stock Location: <u>MAT043</u> | 0.00 | | | | | | | |
| *130* | | | | | | | | | |
| Packaging | Memo | 0.00 | | | | | | | |
| Packaging | | | | | | | | | |
| 140 | QC21- Final Inspection - Work Order Release | 0.00 | | | | | | | |
| *140* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

SL 11-12-06

(20)

11/12/11

ME

11-12-06

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

Picklist Print

November 22, 2011 8:09:54 AM

Page 1

Work Order ID: 76834

Parent Item: D6104-005

Parent Item Name: Round Billet, 17-4

Start Date: 11/22/11

Required Date: 12/06/11

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP A: 01.05.08New Issue EC

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|--|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D6104-005P 17-4 SS Roundbar 4.00"OD | | Purchased | No | | | 110 | Each | 0.0000 | 1 | 20 | | | |

11/22/11 (20)

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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NOTE: Date & initial all entries



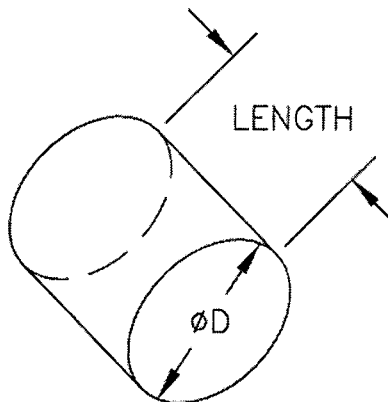
| | | | |
|------------------------|-------------------------|--|------------------------|
| DESIGN [Signature] | DRAWN BY [Signature] | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED [Signature] | APPROVED [Signature] | DRAWING NO. D6104 | Rev. B SHEET 1 OF 1 |
| DATE 02.11.25 | | TITLE ROUND BILLET, 17-4 | SCALE NTS |
| A | 01.04.10 | NEW ISSUE | |
| B | 02.11.25 | CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS | |

RELEASED

02.11.29 [Signature]

SPECIFICATION CONTROL DRAWING

CX111122
W10: 76834



MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRC)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

| Part No. | Alloy | D (Diameter) | Length |
|-----------|-------------------------|-----------------|--------|
| D6104-001 | 17-4 PH STAINLESS STEEL | Ø3.00 | 3.80 |
| D6104-003 | 17-4 PH STAINLESS STEEL | Ø3.25 | 3.80 |
| D6104-005 | 17-4 PH STAINLESS STEEL | Ø4.00 | 5.10 |
| D6104-007 | 17-4 PH STAINLESS STEEL | Ø4.50 | 5.10 |
| D6104-009 | 17-4 PH STAINLESS STEEL | Ø5.25 | 4.10 |
| D6104-011 | 17-4 PH STAINLESS STEEL | Ø6.50 | 4.10 |
| | | | |
| | | | |

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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO15517

Purchase Order Date 11/23/11

PO Print Date 11/24/11

Page Number 1 of 2

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

| | | | |
|--------------------|--------------|-----------------|---------------------|
| Contact Name | | Buyer | Chantal Lavoie |
| Vendor Phone | 905 669 9444 | Requisition Nbr | |
| Vendor Fax | 905 738 9033 | Tax Resale Nbr | 10127-2607 |
| Vendor Account Nbr | | Terms | Net 30 |
| | | Currency | CAD |
| | | FOB | Destination-Collect |

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

REVISED
\$

| Line Nbr | Reference Revision ID Vendor Part Number | Description/ Mfg ID | Req Date/ Taxable | Req Qty/ Unit of Measure | Ship Method | Unit Price | Extended Price |
|----------|--|-----------------------------|--|-----------------------------|-------------|------------|-------------------|
| 1 | D6104-005P | 17-4 SS Roundbar 4.00"OD | 12/01/11 Yes | 20.00 Each | Yours ppd | \$61.7500 | \$1,235.00 |
| | | Special Inst: | AS PER DWG D6104 REV. B B76834 MATERIAL: 17-4 PH SS AS PER AMS 5643 OR AISI 630 SIZE: 4.00" X 5.10" LONG | | | | |
| 2 | D6104-007P | 17-4 SS Roundbar 4.50"OD | 12/12/11 Yes | 12.00 Each | Yours ppd | \$110.8800 | \$1,330.56 |
| | | Special Inst: | AS PER DWG D6104 REV. B B76833 MATERIAL: 17-4 PH SS AS PER AMS 5643 OR AISI 630 SIZE: 4.50" X 5.10" LONG | | | | |
| 3 | D6104-009P | 17-4 SS Roundbar 5.25"OD | 12/12/11 Yes | 12.00 Each | Yours ppd | \$115.0000 | \$1,380.00 |

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 2

Change Date: 11/24/11

SHIP FROM:
THYSSENKRUPP MATERIAUX NA
4700 BOIS FRANC
ST. LAURENT, QC H4S 1A7
Tel: 514-337-0161 Fax: 514-745-2968

SHIP TO: (1)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7
Tel: 613-632-9577 Fax: 613-632-1053

B I L L O F L A D I N G

No: VIM 361328
Ship Date 01Dec11 at 23:06 From VFW
Probill
Via OUR TRUCK
FOB MONTREAL
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp CARMELA AGNIHOTRI
Sold To: (20115)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7

B I L L O F L A D I N G

1) Our Order PEC-393122- 1 Your PO # 15517

STAINLESS STEEL ROUND BAR 17-4 STAINLESS

4.00" DIA X 5.1000"

1 SKID RECD6104-005

20 Pcs 364 Gr 377 LBS
8 ' 6.0000 "

TOTAL: Net Wt Gr LBS
20 364 377

MILL TEST REPORTS, PACKING SLIPS ARE TO SENT
WITH MATERIAL AND FAXED TO THE CUSTOMER PRIOR
TO SHIPPING.

ATTN: CHANTAL/LINDA

** ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER **
** REFERENCED ON IT **

***UNE SURCHARGE D'ENERGIE DE \$25.00

SERA AJOUTEE A CHAQUE COMMANDE.***

***PLEASE NOTE A \$25.00 ENERGY SURCHARGE WILL BE
ADDED TO EVERY ORDER.***

*** POUR VOS BESOINS D'ACIER INOXYDABLE,

CONTACTEZ-NOUS. NOUS L'AVONS! TEL. 800-926-2600

*** FOR ALL YOUR STAINLESS STEEL NEEDS, CALL US.

*** WE HAVE IT! *** TEL. 800-926-2600 ***

Page: 1 Last

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

Agout SVP J C 581

Ship From: B I L L O F L A D I N G
THYSSENKRUPP MATERIAUX NA
4700 BOIS FRANC
ST. LAURENT, QC H4S 1A7
Tel: 514-337-0161 Fax: 514-745-2968

No: VIM 361328
Ship Date 01Dec11 at 23:06 From VFW
Probill
Via OUR TRUCK
FOB MONTREAL
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp CARMELA AGNIHOTRI
Sold To: (20115)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7

Ship To: (1)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7
Tel: 613-632-9577 Fax: 613-632-1053

B I L L O F L A D I N G

1) Our Order PEC-393122- 1 Your PO # 15517
STAINLESS STEEL ROUND BAR 17-4 STAINLESS
4.00" DIA X 5.1000"
1 SKID RECD6104-005

20 Pcs 364 Gr 377 LBS
8 ' 6.0000 "

* heat: 7HL2

TOTAL:

Net Wt Gr LBS
20 364 377

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TO SHIPPING.

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** REFERENCED ON IT **

***UNE SURCHARGE D'ENERGIE DE \$25.00
SERA AJOUTEE A CHAQUE COMMANDE.***

***PLEASE NOTE A \$25.00. ENERGY SURCHARGE WILL BE
ADDED TO EVERY ORDER.***

*** POUR VOS BESOINS D'ACIER INOXYDABLE,

CONTACTEZ-NOUS. NOUS L'AVONS! TEL. 800-926-2600

*** FOR ALL YOUR STAINLESS STEEL NEEDS, CALL US.

*** WE HAVE IT! *** TEL. 800-926-2600 ***

Page: 1 Last

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ETRE
RAPPORTEES IMMEDIATEMENT

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER

RECU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION
TVQ/QST# 1017327981 TQ001 TPS/GST TVH/HST # 140223934 RT0001

DATE

1/12/11

Hauscher

POUR 1537

DART AEROSPACE

STAINLESS STEEL ROUND BAR 17-4 STAINLESS

400 DIA X 1000

PART NO

Nous certifions que le document reproduit ci-dessus est une copie conforme du rapport d'analyse et de la production du matériel ou des données résultant de l'analyse.

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**NORTH AMERICAN
STAINLESS**

**5NA6743
METALLURGICAL TEST REPORT**

6870 Highway 42 East
Cheat, KY 41045-9615
(502) 347-6000

Certificate: 591784 15 Mail To: SUMMIT STAINLESS STEEL, LLC.
2001 ELIZABETH STREET
NORTH BRUNSWICK NJ 08902 Ship To: SUMMIT STAINLESS STEEL, LLC.
9848 U.S. 90 A
SUGARLAND TX 77478 Date: 10/10/2010 Page: 1 of 1
Steel: 630
Finish: Cold Finish
Dia/Thk: 4.0000 in
Leg Length: 244.00 in
Corrosion:

PRODUCT DESCRIPTION:

Round Bar, Annealed, Smooth Turned, Cold Finished
UNS S17400, EN 10204 3.12, ASTM A484/08
ASTM A564/04 ASME SA564-07
AMS 5643R

Item Code:

REMARKS:

COMPLIES W/REQUIREMENTS OF DEARS EU DIRECTIVE 2002/95.
EC. ROHS. EAF+ROD+CC. NO WELD REPAIR. MELTED AND MFG IN USA
FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

| Bundle Weight | Bundle Weight | Bundle Weight | Bundle Weight | Bundle Weight | Bundle Weight | Bundle Weight | Bundle Weight | Bundle Weight | Bundle Weight |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| BD30029 | 502 | | | | | | | | |

CHEMICAL ANALYSIS

CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)

| Heat | Supplier # | CM | C | CB | CO | CR | CU | MN | MO | N | NI | P |
|------|------------|----|-------|-----|-------|-------|------|-----|-----|------|------|------|
| 7HL2 | | US | .038 | .22 | .07 | 15.57 | 3.14 | .81 | .19 | .031 | 4.41 | .028 |
| | | | S | SI | TA | TI | | | | | | |
| | | | .0163 | .36 | .0065 | .0020 | | | | | | |

MECHANICAL PROPERTIES

| | HB | Ferr | TS-U | YS-C | EL-C | RA-C | RC-C |
|-------------|-------|------|--------|--------|-------|-------|------|
| No. | % | KSI | KSI | % | % | No. | |
| BD30029 R L | 314.0 | .30 | 200.93 | 176.96 | 14.03 | 48.54 | 42.5 |

NAS hereby certifies that the analysis on this certification is correct and the material meets the specifications stated.

QC ENGINEER

KEVIN HESS